STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

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North Carolina Board of Transportation
Environmental Planning and Policy Committee
Meeting Minutes for June 1, 2005

A meeting of the Environmental Planning and Policy Committee (EPPC) was held June 1, 2005 at 8:30 AM in the Board Room (Room 150) of the Transportation Building. Board Member Nina Szlosberg chaired the meeting. Other Board of Transportation members that attended were:

Conrad Burrell	Nancy Dunn
D. M. Campbell, Jr.	J. Douglas Galyon
Bob Collier	Andrew Perkins
Marion Cowell	*Lanny Wilson*

Other attendees included:

Anne Tazewell	Don Lee	Karim Manji
Anthony Fairley	Don Voelker	Len Sanderson
Anthony Roper	Donnie Brew	Lisa Glover
April Little	Ehren Meister	MarcusWilner
Becky Luce-Clark	Emily McGraw	Mike Bruff
Bill Rosser	Greg Thorpe	Mike Mills
Bob Andrews	Jeff Cox	Mike Pettyjohn
C. A. Gardner	Jim Trogden	Miriam Perry
Charles Tomlinson	Joe Turlington	Pat Ivey
Clarence Coleman	Joel Setzer	R. E. Greene, Jr.
Craig Deal	John Rathbun	Robin M. Little
D. D. King	John Sulllivan	Steve Varnedoe
Dan Thomas	Jon Nance	Teresa Hart
David Thomas	Judith Corley-Lay	Terry McLaurin
Dawn Garrison	Julie Hunkins	

Ms. Szlosberg called the meeting to order at 8:30 AM. Ms. Szlosberg accepted a motion to approve the meeting minutes from the May committee meeting as presented.

Ms. Szlosberg introduced Mr. Dan Thomas, Technical Services Group Manager – Transportation Planning Branch, to speak about NCDOT's Congestion Mitigation and Air Quality (CMAQ) Project Submittal Process and Recommended CMAQ Projects. Mr. Thomas began by explaining that Mr. Jamal Alavi presented the CMAQ projects list at the last EPPC Meeting. Mr. Thomas

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restated that these projects were submitted by the Metropolitan and Rural Planning Organizations (MPO's and RPO's) and reviewed by a committee comprised of representatives from the Transportation Planning Branch, Program Development Branch, Division of Air Quality (DENR), Federal Highway Administration, Environmental Protection Agency, Federal Transit Authority, MPO's, and RPO's. Projects were reviewed for eligibility for CMAQ Funding, determination of the worthiness of the projects, and whether the MPO's and RPO's have adequate funding for project implementation.

Mr. Thomas stated he would answer any questions relating to the list of projects and would like to get the list of projects presented to Board of Transportation for approval. Upon conclusion of his presentation, Ms. Szlosberg asked the Board if they were ready to make a decision. There was some concern from a few members that the list had not been distributed and that they would need more time to make the decision. Ms. Szlosberg then asked Mr. Thomas how this additional time would impact the CMAQ schedule. Mr.Thomas stated that the delay would cause a delay in the inclusion of the CMAQ Projects List in the 2006-2012 TIP and the projects could get stalled. It was concluded that Dan Thomas would get the CMAQ projects list issued to the Board Members along with a letter stating the urgency of the review process.

Next, Ms. Szlosberg introduced the Hot In-Place Recycling (HIPR) topic for discussion. She stated this subject is one that has been a topic of discussion for the last three years. She asked Mr. Steve Varnedoe, Chief Engineer – Operations, to introduce the feature speaker, Mr. Rathbun, Vice President of the Foundation for Pavement Preservation. Mr. Varnedoe stated that Mr. Rathbun is very active on a national level with the protection/preservation of road network and is also a past president of the Asphalt Recycling and Reclaiming Association. This organization is composed of several groups such as government, academia and industry. Mr. Varnedoe stated that Mr. Rathbun would talk about the various types of roads network protection and preservation and specifically, HIPR.

Mr. Rathbun reviewed these topics using a Powerpoint presentation. The following are some highlights of his presentation:

- There are three Types of HIPR – Surface Recycling, Surface Repaving and Remixing
- The bottom line question – "How can I maximize the return on my investment in asphalt pavement rehabilitation funding?" can be answered as, "By repairing your asphalt pavement during the first 40% drop in quality."
- Each $1 spent during the first 40% drop in quality will cost $4-5 if delayed until pavement loses 80% of its original quality.
- The surface is the critical area – aging of asphalt pavement occurs most rapidly at the surface.
- Surface recycling involves heating, reworking and rejuvenating the top one inch of an existing asphalt pavement in preparation of either a seal coat, micro-surfacing or overlay.
- Several slides were shown of different types of equipment used and the benefits of each type.
- Surface repaving involves heating, reworking and rejuvenating the top one inch of an existing asphalt pavement and simultaneously applying an overlay while the temperature

of the recycled layer is 200 degrees F. Several slides were shown depicting different equipment employed during the surface repaving activities.

- S. R. 6 Clifton Project Results slide showed the Mean Mat Density, Joint Density and Smoothness achieved during the project execution using this technique.
- Urban applications were discussed next. It was determined that during this application, curb milling may be necessary; traffic can be easily controlled in the work zone; and environmental considerations, such as exhaust heat impact to adjacent vegetation. To address this exhaust heat impact, it was determined that pre-heaters were definitely required to minimize the adverse impact. The use of pre-heaters requires a longer "chain" of equipment and the use of heavier equipment.
- Remixing approach involves heating, reworking and rejuvenating the top 1 to 1.5 inches of an existing asphalt pavement adding virgin admix and mixing the combined recycled and new material in a pugmill prior to laying, either as binder or surface course. Several slides were shown illustrating various types of equipment used for this process.

The slide presentation was concluded with a recap of HIPR and potential benefits:
Hot In-Place Recycling treats surface to a depth of 1 inch, which is a hot process.
This process increases structural coefficient. The potential HIPR benefits include extended life of the asphalt, improved ride quality, improved friction coefficient, improved appearance, improved bonding, and increase efficiency in asphalt rejuvenation since work can be completed in a single pass. Mr. Rathbun then opened the floor for questions.

Mr. Roger Sheats asked if there are any additional environmental impacts (other than vegetation) due to urban applications and, secondly, if there are there any weight concerns resulting from the use of heavy equipment (65,000 pounds). Mr. Rathbun answered by stating that as long as you use pre-heaters, the temperature will be brought up in a more controlled manner (use more pre-heaters) and the smoke would be minimized - this would minimize other potential impacts. In regards to the weight concerns, Mr. Rathbun stated that the use of pavement machines with tandem (3 axles) has not presented a problem in the past; however, bridges may be of concern. Mr. Rathbun also stated that they manufacture their own pavers.

In regards to pavement preservation and referring to "The Cost of Timely Maintenance" slide, Ms. Szlosberg asked if anyone has performed analysis on the use of recycled materials and it's impact on project costs (maintenance budget). Mr. Rathbun stated that he does have some additional information; however, he didn't bring it with him. He said he would get it to Mr. Varnedoe who can then share it with the Board Members.

Ms. Szlosberg asked Mr. Varnedoe what our maintenance budget is and how the use of recycled materials would impact this budget in a positive way. Mr. Varnedoe responded by stating that at NCDOT, our routine maintenance and contract resurfacing budget is $615 million per year. Of this, $157 million per year is contract re-surfacing (hot mix asphalt with 1 –1.5 inches of overlay). Chip sealing is about $30 million per year, and about $200 million is the interstate maintenance budget.

Ms. Szlosberg then asked what type of schedule is followed at NCDOT as far as the "Paved Condition" vs. "Years" (referring to the "Cost of Timely Maintenance" slide). Mr. Varnedoe

responded by stating there are many types of recycling methods that can be employed. NCDOT is moving in a direction to work on the "good" roads and keep them in good condition before they start to deteriorate and require more repairs and, hence, additional funding. Catching degradation in early stages has far more economic advantages than waiting until it has reached a point where it would require a great deal of money to repair. According to Mr. Varnedoe, historically we have ignored the roads and performed "band aid" fixes. Ms. Szlosberg asked why this has been our approach historically. Mr. Varnedoe responded by explaining there are a number of reasons. Adding more miles of secondary roads in the last fifteen years (almost 1,000 miles) while the budget did not grow with the additional roadways that had to be maintained is the primary reason. Mr. Rathbun added that the public has difficulty with this concept – they feel that the roadways in worse conditions should receive attention first and this is a matter of public education. Mr. Varnedoe concluded that NCDOT is moving in the right direction in its approach towards pavement preservation. Hiring of Ms. Emily McGraw, who is dedicated to this approach, is a step in that direction.

Ms. Nancy Dunn asked how aware are the legislators of these budget constraints. Mr. Varnedoe responded that they are very aware since NCDOT is required to report the condition and state of our highway system every two years. He went on to state that traditionally NCDOT has received about $300 million less than the requested amount. For example, our requirement for the contract resurfacing has been about $230 million to meet the needs; however, we have only received $157 million. Mr. Varnedoe said that our ultimate goal is to keep about 80 –85 % of our roads in good condition.

Ms. Nina Szlosberg noted that one thing that struck her the most is that with the process described in the slide presentation, there is no down time – the whole process is accomplished in one pass. Her observation was that this should result in lower economic strain while realizing an environmental benefit, as well by using recycled materials. Mr. Rathbun agreed and added that he was not aware of any data on the economic benefits of this process. In conclusion, Mr. Rathbun summarized by stating that if you only take away one item from his presentation, it should be this: HIPR is one tool in the toolbox for pavement preservation. You have to find the right method of application at the right time. This can be accomplished by analyzing the given situation, collecting data, performing the right test(s), and determining if HIPR is the right approach for the given application.

Ms. Szlosberg asked Mr. Daniel Keel, Operations Program Manager, to go over the State Minimum Criteria Report for the first quarter of 2005. Mr. Keel presented the Board with the following data:

MINIMUM CRITERIA PROJECT REPORT
6/22/2005
FIRST QUARTER, 2005 (1/1/05-3/31/05) BY DIVISION, BY CATEGORY

DIVISION	TOTAL NUMBER OF PROJECTS	#8	#12	#15	TOTAL PROJECT LENGTH (MI.)	NEWLY DISTURBED AREA (ACRES)
1	66	64	2	0	237.45	4.5
2	0	0	0	0	0	0
3	9	5	4	0	5.65	1.45
4	0	0	0	0	0	0
5	28	0	28	0	20.66	84.15
6	1	0	0	1	0.3	2.2
7	2	0	2	0	0	0
8	12	7	5	0	2.94	17.33
9	28	9	17	2	14.57	52.5
10	0	0	0	0	0	0
11	0	0	0	0	0	0
12	0	0	0	0	0	0
13	8	2	6	0	2.84	5.18
14	10	0	10	0	6.89	12.42
TOTAL	**164**	**87**	**74**	**3**	**291.3**	**179.73**

Mr. Keel emphasized that only Criterion # 8 (Modernization of State Highways), #12 (Maintenance or Repair of State Highways) and #15 (Construction of new two-lane highways involving less than 25 acres) are reported. In addition, Mr. Keel summarized the following:

- This quarter, there were 164 projects that utilized these criterion
- 1200 linear feet of stream impacts (less than 100 feet per project)
- Less than 0.25 acres of wetlands impact
- There were one third fewer projects (due to budget constraints and the fact that Divisions 2, 4, 6,10,11, and 12 reported their secondary road projects last quarter)
- Web-based reporting is nearing completion. They are currently debugging the reporting process.

Ms. Szlosberg requested that one more column should be added in the reporting – total number (cumulative) of projects processed.

Next, Ms. Szlosberg introduced Ms. Robin Little, Environmental Operations Engineer – NCDOT Roadside Environmental Unit), to present the Environmental Stewardship Video for new hires entitled, "A Good Tomorrow."

Ms. Little started by stating it was her pleasure to introduce the video, "A Good Tomorrow" on Environmental Stewardship. She said that this simple idea became a reality with the support of NCDOT management and the talent of the NCDOT Multi-Media Unit – Mr. Anthony Fairly, Mr. Marcus Farrar and Ms. Sherri Greene. She said that this video is to be distributed statewide for new employee orientations by NCDOT Human Resources. The target audience of this video is new hires throughout NCDOT. She felt that it would be a good idea to emphasize NCDOT's commitment to environmental excellence and stewardship from day one. The following is a summary of some key highlights from the video:

- Emphasizes environmental stewardship
- Employees are a vital link in the environmental stewardship efforts
- Excellence at every level of the job should be every employee's goal
- How can you be a good steward of the environment? Video showed examples of key projects that are noted for their good management practices
- 3 R Program – Reduce, Reuse and Recycle. Each and every employee can make a difference in conserving the Department's financial and the planets natural resources
- Construction, Maintenance and Operations can all have play a vital role in the protection of the environment – proper planning and achievable goals play a key role in this effort
- On the job and off, each employee is a steward of the environment and should take a leading role in the protection of the natural, cultural and human resources while providing a safe and well maintained interconnected transportation system.

Ms. Szlosberg thanked the presenters, Board Members, and meeting attendees. The next meeting of the Environmental Planning and Policy Committee is scheduled for Wednesday, July 6, 2005 at 8:30 AM in the Board Room (Room 150) of the Transportation Building.

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